

CLAIMS

1. A steel/aluminum welded structure comprising:
 - a hot-dip Al-coated steel sheet having a coating layer, consisting of, by mass, 3-12% Si, 0.5-5% Fe and the balance being Al except inevitable impurities, and an Al-Fe-Si ternary alloy layer formed at an interface between a steel substrate and the coating layer; and
 - an aluminum or aluminum alloy sheet spot welded to the Al-coated steel sheet;wherein an area ratio of an Al-Fe binary alloy layer to a whole of an Al/Fe joint boundary is controlled to 90% or less, and an Al-Fe alloy free region exists between the Al-Fe binary alloy layer and the Al-Fe-Si ternary alloy layer.
2. The steel/aluminum welded structure of **Claim 1**, wherein:
the coating layer is formed on a steel substrate containing 0.002-0.020% N, and the coating layer is formed on a N-enriched surface of the steel substrate, N concentration of the N-enriched surface being 3.0% or more, by atom.
3. The steel/aluminum welded structure of **Claim 1 or 2**, wherein:
the aluminum or aluminum alloy sheet contains Fe at a ratio not more than 1.0%.
4. The steel/aluminum welded structure defined by either one of **Claims 1 to 3**, wherein:
the aluminum alloy sheet contains 0.1-6.0% of Mg and 3.0% or less of Si.